

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently amended) A rotor for a ~~roo~~~~f-mountable~~ roof-mounted wind turbine comprising a plurality of radial blades and a ring-shaped diffuser ~~conne~~~~cting~~ connected to the outer tips of the blades, wherein the diffuser is an aerofoil diffuser and is ~~shap~~~~e~~configured such that it inhibits the partly axial and partly radial airflow from the blades, said airflow becoming circumferential when it contacts the aerofoil diffuser, thereby reducing acoustic emissions.
2. (Original) A rotor according to claim 1, wherein the aerofoil diffuser extends downstream from the outer tips of the blades.
3. (Previously presented) A rotor according to claim 1, wherein the outer tips of the blades are connected to the diffuser at or near to the leading edge of the diffuser.
4. (Previously presented) A rotor according to claim 1, wherein the aerofoil diffuser tapers outwards from the outer tips of the blades to form a substantially frusto-conical diffuser; the rotational axis of the frusto-conical diffuser is substantially aligned to the rotational axis of the blades.
5. (Original) A rotor according to claim 1, wherein at least a portion of the aerofoil diffuser extends upstream from the outer tips of the blades.
6. (Previously presented) A rotor according to claim 1, wherein the aerofoil diffuser tapers radially outwards as it extends from the upstream end to the downstream end.
7. (Cancelled)
8. (Previously presented) A rotor according to claim 1, wherein the aerofoil diffuser is shaped to inhibit partly axial and partly radial airflow from the outer tips of the blades and divert said airflow to substantially circumferential airflow during normal operation.

9. (Previously presented) A rotor according to claim 1, wherein the blades are inclined at an angle relative to a transverse rotor plane perpendicular to the rotational axis of the rotor.
10. (Original) A rotor according to claim 9, wherein the angle of inclination may vary along the length of the blade.
11. (Previously presented) A rotor according to claim 9, wherein the angle of inclination of each blade is greater at an intermediate portion of the blade than at the outer tip of the blade.
12. (Previously presented) A rotor according to claim 1, wherein the blades are substantially parallel to the transverse rotor plane at the outer tip of the blades.
13. (Previously presented) A wind turbine comprising a rotor according to claim 1, further comprising a nacelle and a mounting means configured to allow rotation of the turbine and rotor about a directional axis perpendicular to the rotational axis, thus allowing the turbine to be oriented in the optimum direction depending on wind conditions.
14. (Previously presented) A wind turbine according to claim 13, further comprising a furling means configured to rotate the rotor about the directional axis so that the rotational axis is not parallel to the direction of airflow when the airflow speed is greater than a predetermined airflow speed.
15. (Previously presented) A wind turbine according to claim 14, wherein the furling means comprises a non-linear furling means configured to provide no furling over a first lower range of airflow speed and a varying degree of furling over a second higher range of airflow speed.
16. (Original) A wind turbine according to claim 14, wherein the furling means comprises at least two tail fins extending downstream of the diffuser.

17. (Previously presented) A wind turbine according to claim 16, wherein the two tail fins are provided diametrically opposite each other.
18. (Previously presented) A wind turbine according to claim 16, wherein one of the tail fins is a moveable tail fin hingedly mounted for rotation about a tangential hinge line.
19. (Original) A wind turbine according to claim 18, wherein the moveable tail fin may be mounted on a mounting boom and the hinge line may be provided: at the connection point of the mounting boom and the nacelle, so that the mounting boom also rotates; at the connection between the mounting boom and the moveable tail fin so that only the moveable tail fin rotates; or at any point along the length of the mounting boom.
20. (Previously presented) A wind turbine according to claim 18, wherein the tail fin rotates about a horizontal axis under high winds resulting in a fin which folds about a horizontal axis.
21. (Previously presented) A wind turbine according to claim 18, wherein the moveable tail fin is rotationally biased by biasing means to an at-rest position in which the leading edge of the moveable tail fin is closer to the axis of rotation of the rotor than the trailing edge of the moveable tail fin, such that the moveable tail fin is angled at an at-rest attack angle to the axis of rotation of the rotor.
22. (Original) A wind turbine according to claim 21, wherein the biasing means is non-linear.
23. (Previously presented) A wind turbine according to claim 21, wherein the biasing means is adapted to hold the moveable tail fin in the at-rest position until the airflow speed reaches a predetermined speed and is further adapted such that as the airflow speed increases beyond the predetermined speed the moveable fin rotates and the attack angle decreases, resulting in unbalanced aerodynamic loading on the wind turbine, such that the wind turbine rotates about its mounting axis to a furled position.

Claims 24 – 48 (Cancelled)

49. (Previously presented) A wind turbine according to claim 13 comprising means for reducing the operating vibrations caused by harmonic resonance within the turbine, tower and mounting structure.
50. (Previously presented) A wind turbine according to claim 49, wherein the wind turbine is provided with a nacelle damping system configured to at least partially isolate the vibrations in the generator and turbine from the tower.
51. (Previously presented) A wind turbine according to claim 49, wherein the wind turbine is provided with mounting brackets for mounting the turbine on a surface, the brackets having a sandwich construction of visco-elastic materials and structural materials.
52. (Previously presented) A wind turbine according to claim 49, wherein the mounting means is tubular.
53. (Previously presented) A wind turbine according to claim 51, wherein the tower contains one or more cores of flexible material, such as rubber, with sections with a reduced diameter, which are not in contact with the tower's inner radial surface, such that the reduced diameter sections alternate with normal sized sections, which are in contact with the tower's inner surface thus serving to absorb vibrations in the tower through the energy dissipated in the flexible core before they reach the mounting brackets.
54. (Previously presented) A wind turbine according to claim 53, wherein the rubber core is configured to control the system's resonant frequency out-with the turbine driving frequency by absorption of a range of vibration frequencies.
55. (Previously presented) A wind turbine according to claim 54, wherein the cross-sectional shape and length of each of the reduced diameter sections is configured to "tune" the system to remove a range of vibration frequencies from the mounting structure.

Claims 56-57 (Cancelled)

58. (New) A rotor for a roof-mounted wind turbine comprising a plurality of radial blades and a ring-shaped diffuser located radially outward from the outer tips of the blades, the blades being connected to an inner surface of the diffuser at a location near a leading edge of the diffuser, wherein the diffuser is an aerofoil diffuser and is configured such that it inhibits the partly axial and partly radial airflow from the blades, said airflow becoming circumferential when it contacts the aerofoil diffuser, thereby reducing acoustic emissions, wherein the diffuser extends axially rearward from the location where the blades connect to the diffuser.

59. (New) A rotor according to claim 58 wherein the diffuser also extends radially outward as it extends axially rearward from the location where the blades connect to the diffuser.